- **8-35.** Review what you have learned by factoring the following expressions, if possible.

  a. $9x^2 - 12x + 4$

  b. $81m^2 - 1$

  c. $28 + x^2 - 11x$

  d. $3n^2 + 9n + 6$

- **8-36.** Is there more than one factored form of $3n^2 + 9n + 6$? Why or why not?

  a. Why does $3n^2 + 9n + 6$ have more than one factored form while the other quadratics in problem 8-35 only have one possible answer? Look for clues in the original expression ($3n^2 + 9n + 6$) and in the different factored forms.

  b. *Without factoring*, predict which quadratic expressions below may have more than one factored form. Be prepared to defend your choice to the rest of the class.

  i. $12t^2 - 10t + 2$

  ii. $5p^2 - 23p - 10$

  iii. $10x^2 + 25x - 15$

  iv. $3k^2 + 7k - 6$

8-37. FACTORING COMPLETELY

In part (c) of problem 8-36, you should have noticed that each term in $12t^2 - 10t + 2$ is divisible by 2. That is, it has a **common factor** of 2.

a. An expression is considered **completely factored** if none of the factors can be factored any more. Often it is easiest to remove common factors first, before factoring with a generic rectangle. Rewrite this expression $10x^2 + 25x - 15$ with the common factor factored out.

b. Your result in part (a) is not completely factored if either factor can be factored. Factor $10x^2 + 25x - 15$ completely.

- **8-38.** Factor each of the following expressions as completely as possible.

  a. $5x^2 + 15x - 20$

  b. $3x^3 - 6x^2 - 45x$

  c. $2x^2 - 50$

  d. $x^2y - 3xy - 10y$